

ARGOSY AUTOMATIC RECORD-CHANGING RADIOGRAMS

A.C. MODELS—ARGP 6012c and ARGP 6111c

THESE three-speed radio-autograms embody a six-valve superheterodyne circuit with negative feedback and including magic eye and full-wave rectifier. They are designed for playing all the kinds of records now commonly bought. The price is 86 guineas including purchase tax.

The automatic record changer can handle the new long-playing records as well as the more normal recordings. It will *automatically* play eight 10-inch or eight 12-inch records at speeds of either 33 $\frac{1}{3}$, 45 or 78 r.p.m. as desired. (It will also handle 7-inch records, though these are played singly and non-automatically.)

A valuable feature from the point of view of owner and service-man alike is provision of two felt-lined record storage compartments, each holding up to twenty-five records—either ten-inch or twelve-inch. Being fitted in the sides of the cabinet these compartments do not interfere in any way with servicing accessibility.

FEATURES OF THE DESIGN

Sensitivity is of a high order, so that the use of an indoor aerial if necessary is not barred; but for full results an efficient earth and outdoor aerial should be used. All the external connections are handily placed and clearly marked, and standard plugs are provided.

The loudspeaker is of the permanent magnet high fidelity ten-inch type with heavy duty transformer. Extra loudspeakers of the low-impedance type may be connected to the terminals provided for that purpose.

Selectivity is good, the high-Q coils employed being designed to give at least eight kilocycles separation at a signal ratio of 10:1. To compensate for fading automatic volume control is fully operative on all the wavebands.

The valves which are B8A based are arranged as follows:—

1. Triode hexode frequency changer.
2. Variable-mu screened tetrode, intermediate frequency amplifier.
3. Double diode triode detector, automatic volume control and audio frequency amplifier.
4. High slope power amplifying pentode.
5. Full-wave indirectly heated rectifier.
6. Cathode ray tuning indicator (International octal based).

Edge-on lighting is used for the tuning scale, which shows the short waves calibrated in megacycles and metres, and the medium and long waves calibrated in kilocycles and metres. Station names and shortwave channels are clearly marked.

Controls

Full advantage is not always taken of the four controls though they are simple and accessible. The first (left-hand) knob combines tone control with the on-off switch; and after switching on, any further clockwise movement emphasises the high notes. Similarly, an anti-clockwise adjustment (towards the off position) will emphasise the bass response.

Volume control (second knob) is normal; but the tuning control (third knob) is often inefficiently handled by an owner who is not used to shortwave sharpness of tuning. Spinning the fly-

wheel moves the pointer rapidly from one part of the scale to another; but after stopping the knob at the chosen spot the fine tuning should be done slowly and carefully if the maximum range of the receiver is to be exploited.

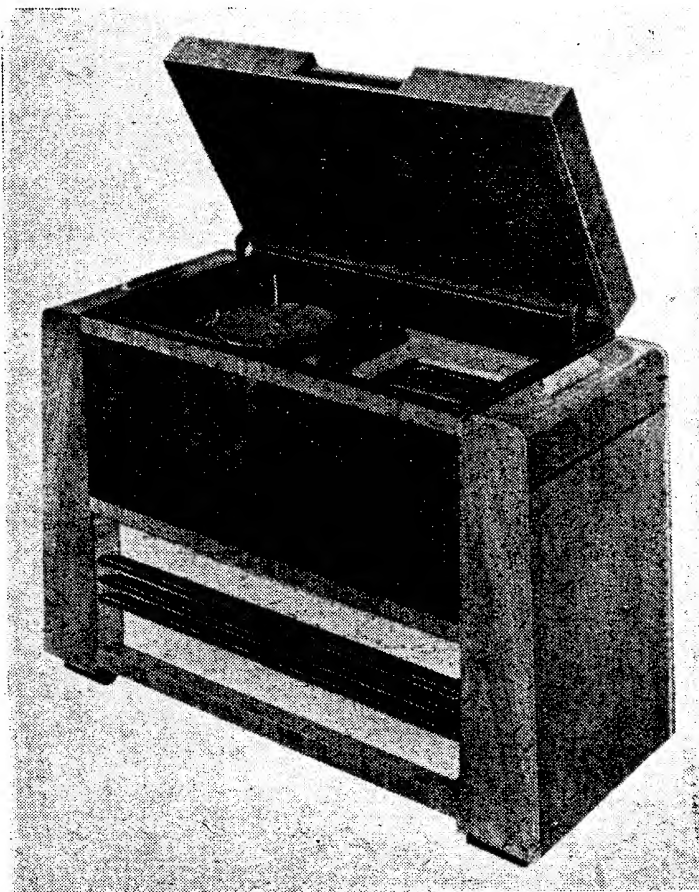
The fourth control governs the wave-band selection, or switches in the gramophone reproduction, the indicator at the top of the scale showing which position is in use at that adjustment. Operating instructions for the three-speed automatic record changer are fully set out in the booklet issued by the makers with each radiogram. The current consumption on gramophone reproduction is 65 watts.

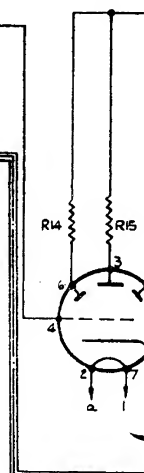
With the gramophone motor inoperative on radio reproduction the current consumption is reduced to 45 watts. The pentode output is rated at over 4 watts at under 5 per cent. distortion.

(Continued on page 4.)

ARGOSY RADIO-VISION LIMITED are the makers. Their address is Argosy Works, Hertford Road, Barking, Essex. Telephone No. RIPpleway 1081-5.

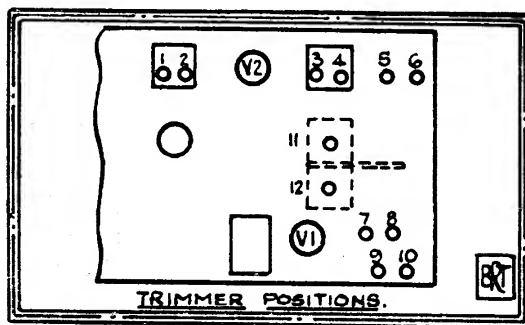
Basically the two designs are similar, but the wave ranges are different. Model ARGP 6012c covers the wavelengths from 12 to 36, 35 to 100, and 190 to 550 metres (25 to 8.3 M/cs, 8.6 to 3 M/cs and 1580 to 545 K/cs). The long waves are included in Model ARGP 6111c, which covers 16 to 50, 190 to 550, and 900 to 2000 metres (18.8 to 6 M/cs, 1580 to 545 K/cs and 333 to 150 K/cs).





MODELS:
ARGP 6012c—ARGP 6111c

L.W.	Trim	300 Kc/s
	Pad	150 Kc/s
M.W.	Trim	1500 Kc/s
	Pad	600 Kc/s
S.W.	Trim	18 Mc/s
	Pad	fixed
S.W.1.	Trim	23 Mc/s
	Pad	fixed
S.W.2.	Trim	8.5 Mc/s
	Pad	pre-set



1. 2, 3 and 4. I.F. Trimmers.
5. M.W. Aerial Trimmer.
6. S.W.2 or L.W. Aerial Trimmer.
7. M.W. Padder.
8. S.W.2 or L.W. Padder.
9. M.W. OSC. Trimmer.
10. S.W.2 or L.W. OSC. Trimmer.
- 11 and 12. S.W.1 Trimmers mounted under chassis on coil mounting plate.

DETAILS OF THE C

RESISTORS

RESISTORS

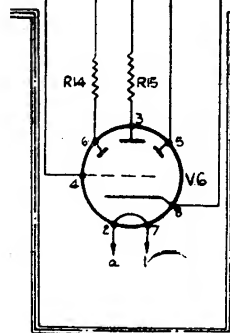
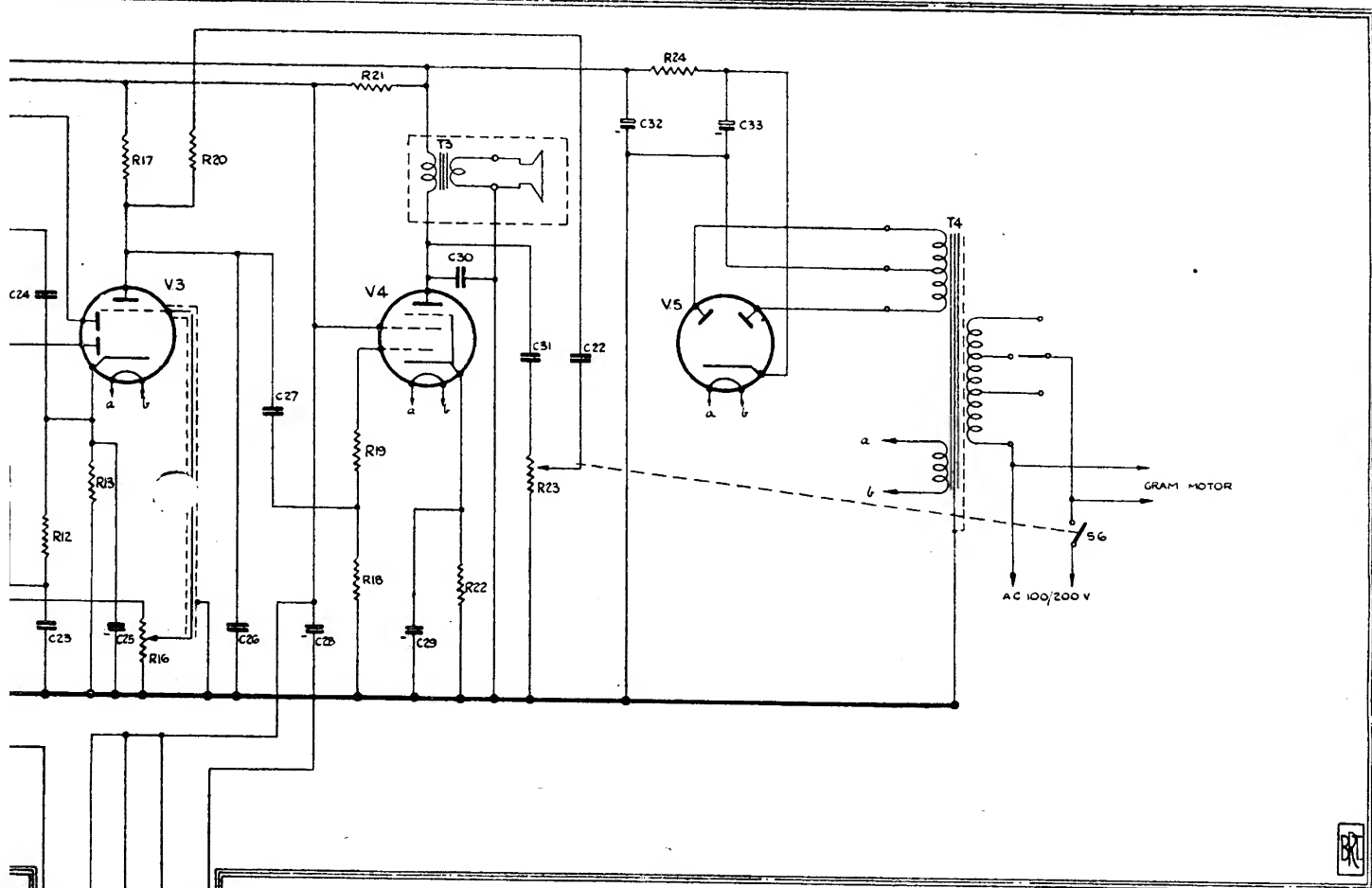
R1	33K Ω	1w.	V1 screen
R2	22K Ω	1w.	V1 screen
R3	330 Ω	$\frac{1}{2}$ w.	V1 cathode bias
R4	33K Ω	1w.	OSC grid leak
R5	33K Ω	$\frac{1}{2}$ w.	OSC anode
R6	100K Ω	1w.	V2 screen
R7	330 Ω	1w.	V2 cathode bias
R8	2.2M Ω	1w.	A.V.C. decoupling
R9	1M Ω	$\frac{1}{2}$ w.	A.V.C. load
R10			
R11	39K Ω	$\frac{1}{2}$ w.	I.F. filter

R12	100K Ω	$\frac{1}{2}w$.	diode load
R13	2.2K Ω	$\frac{1}{2}w$.	V3 cathode bias
R14	1M Ω	$\frac{1}{2}w$.	magic eye anode
R15	1M Ω	$\frac{1}{2}w$.	magic eye anode
R16	.5M Ω		volume control
R17	100K Ω	$\frac{1}{2}w$.	V3 anode load
R18	470K Ω	$\frac{1}{2}w$.	V4 grid leak
R19	100K Ω	$\frac{1}{2}w$.	V4 grid stopper
R20	.5M Ω	$\frac{1}{2}w$.	negative feedback
R21	2.2K Ω	1w.	H.T. decoupling
R22	180 Ω	$\frac{1}{2}w$.	V4 cathode bias
R23	25K Ω		tone control
R24	820 Ω	2w.	smoothing

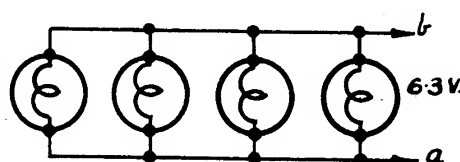
CONDENSERS

C1	100pF.	Trimmer
C2	100pF.	Trimmer
C3	50pF.	Trimmer
C4	1.1uF.	350 v. A.V.C. decoupling
C5	490pF.	Variable
C6	.02uF.	750 v. V1 screen
C7	1.1uF.	350 v. V1 cathode
C8	.00005uF.	Mica OSC grid
C9	750pF.	Padder
C10	100pF.	Trimmer
C11	.003uF.	Mica OSC anode

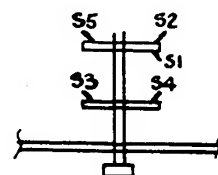
C12	250pF.		Padder
C13	.002uF.	Mica	P.O.5 p
C14	100pF.		Trimme
C15	.005uF.	Mica	Padder
C16	50pF.		Trimme
C17	490pF.		Variable
C18	.02uF.	750 v.	V2 scre
C19	.1uF.	350 v.	V2 cath
C20	.0001uF.	Mica	AVC fe
C21	.01uF.	750 v.	Audio f
C22	.0003uF.	Mica	Negativ
C23	.0001uF.	Mica	I.F. filte
C24	.0001uF.	Mica	I.F. filte



Owing to shortage of supplies alternative components are sometimes used. These in no way detract from the operation of the receiver.



DIAL LAMPS



SWITCH UNIT VIEWED FROM UNDER CHASSIS

THE COMPONENTS

Mica	Padder	C25 25 μ F.	25 v.	V3 cathode
Mica	P.O.5 padder	C26 .0001 μ F.	Mica	V3 anode
Mica	Trimmer	C27 .02 μ F.	750 v.	V4 grid
Mica	Padder	C28 8 μ F.	350 v.	Electrolytic
Mica	Trimmer	C29 25 μ F.	25 v.	Electrolytic
750 v.	Variable	C30 .002 μ F.	1000 v.	Tone control
350 v.	V2 screen	C31 .05 μ F.	750 v.	Tone control
Mica	AVC feed	C32 16 μ F.	450 v.	Electrolytic
750 v.	Audio feed	C33 8 μ F.	350 v.	Electrolytic
Mica	Negative feed back	C34 .00006 μ F.	S/mica.	
Mica	I.F. filter	C35 50pF.		I.F. trap trimmer
Mica	I.F. filter	C36 .1 μ F.	350 v.	H.F. by-pass

COILS

	ARGP6111	ARGP6012
L1 Aer. coil	P.A.1	P.A.2
L2 " "	P.A.2	P.A.5
L3 " "	P.A.3	P.A.4
L4 Osc. "	P.O.1	P.O.2
L5 " "	P.O.2	P.O.5
L6 " "	P.O.3	P.O.4
L8 I.F. trap coil AF		

DIAL LAMPS 6.5 v. .3 amp.

VALVES

V.1 ECH42
V.2 EF41
V.3 EEC41
V.4 EL41
V.5 EZ40
V.6 EM34

TRANSFORMERS

T1 I.F. transformer, type 551
T2 I.F. " 552
T3 Speaker 10" P.M. "
T4 Mains transformer

(Continued from page 1.)

Transformers

The high frequency coils of the input are air cored. The intermediate frequency transformers have dust iron cores, permeability tuned. A voltage adjuster plug on the rear of the chassis enables the mains transformer to be suited to the following range:—From 100 to 250 volts, 50–60 cycles, with tapings at 110–115, 200–230 and 230–250 volts.

Removal from Cabinet

To remove the receiver from the cabinet for servicing first remove the knobs by loosening the small grub screws. Next remove the loudspeaker plug and mains lead from the gramophone motor, and wrap the ends of the mains leads with insulating tape to prevent them from short-circuiting.

The chassis can now be removed on its mounting board by taking out the four brass screws securing the board to the cabinet. All parts of the chassis can now be reached through an aperture in the mounting board.

Circuit Alignment

I.F. Stages.—Connect signal generator to E. socket and via a .01 μ F capacitor

to control grid (on gang) of V.1. Switch set to M.W., turn gang to maximum capacity, feed in a 465 K/cs signal, and adjust iron dust cores 1, 2, 3, 4, for maximum output.

R.F. and Osc Stages.—Medium Wave: Signal generator fed to Aerial socket via .0002 μ F capacitor. Signal Generator set to 600 K/cs. Rock tuning condenser over 600 K/c mark and adjust M.W. Padder (7) for maximum output.

Medium Waves.—Readjust Signal Generator to 1500 K/cs, set pointer at 1500 K/cs. Adjust trimmer (9) till audio note is heard at maximum, then adjust Med. Wave Aerial trimmer (5) for maximum output. Recheck padder at 600 K/cs.

Short Waves.—Short Wave:—Signal Generator set at 18 M/cs. Set pointer at 18 M/cs. Adjust S.W. Oscillator trimmer (12). Adjust S.W. Aerial trimmer (11) for maximum output. Check that oscillator is not on image. Image should appear approximately 1 M/c away on LOWER frequency side. Check at 6.5 M/cs (Fixed Padder).

Short Wave One.—S.W.1:—Signal Generator set at 25 M/cs. Set pointer at 25 M/cs. Adjust S.W.1 Oscillator trimmer (12). Adjust S.W.1 Aerial

trimmer (11) for maximum output. Check that oscillator is not on image. Image should appear approximately 1 M/c away on LOWER frequency side. Check at 8.5 M/cs. (Fixed Padder.)

Short Wave Two.—S.W.2:—Signal Generator set at 8.5 M/cs. Set pointer at 8.5 M/cs. Adjust oscillator trimmer (10). Rock tuning condenser over 8.5 M/cs mark, and adjust Aerial trimmer (6) for maximum output. Check at 3.5 M/cs. Padder is pre-set and should not need adjusting.

Long Waves.—Long Wave:—Signal Generator set at 300 K/cs (1000 M.). Set pointer at 300 K/cs. Adjust oscillator trimmer (10). Adjust Aerial trimmer (6) for maximum output. Reset Signal Generator to 150 K/cs (2000 Metres). Rock tuning condenser over 150 K/cs mark and adjust Padder (8) for maximum output. Check trimming after padding.

I.F. Filter.—Switch set to M.W. a set pointer to 550 K/cs. Feed in at the Aerial socket a 465 K/cs signal modulated at 30 per cent. Adjust C35 to minimum output.

Trimmers.—Trimmer positions are shown on the sketch below the circuit diagram on pages 2 and 3.

SPARE PARTS LIST for the ARGOSY AUTOMATIC RECORD-CHANGING RADIOGRAMS

Part No.	DESCRIPTION	Part No.	DESCRIPTION	Part No.	DESCRIPTION
1-1	Electrolytic Condenser 16-16 mfd. 350 volt.	2-34	Volume Control .5 meg.	8-1	Scale Pan
1-2	Electrolytic Clamp 1 $\frac{3}{8}$ " diam.	2-40	" " 39,000 ohm $\frac{1}{2}$ watt	8-5	" " extension
1-3	" Condenser 25 mfd. 25 volt	2-41	Tone Control 25,000 ohm with switch	9-1	Lampholder
1-7	" " 8 mfd. 350 "	3-9	Indicator with bush SSM	9-2	Octal Valve holder
1-8	Condenser paper .1 mfd. 350 volt	3-10	Indicator with bush SML	9-4	4 pin socket
1-10	" " .02 mfd. 750 "	3-14	Tuning Scale, Short, Medium, Long	9-5	4 pin plug
1-11	" " .002 mfd. 1000 "	3-15	Tuning Scale, Short, Short, Medium	9-6	Shell for 4 pin plug
1-12	" " .01 mfd. 350 volt	4-19	Valve EM 34	9-14	Mains panel, engraved
1-13	" " .05 mfd. 500 "	4-24	Dial Bulb 6.5 volt .3 amp.	9-17	Aerial and Earth panel, engraved
1-14	" mica .0001 mfd.	4-29	Valve ECH 42	9-18	Aerial and Earth and Ext. Speaker panel, engraved
1-15	" " .0003 mfd.	4-30	" EF 41	9-21	Paxolin panel with 6 sockets
1-17	" " .005 10% limit	4-31	" EBC 41	9-22	" " " 4 "
1-18	Moulded mica .005 25% limit	4-32	" EL 41	9-28	B8A Valve holder
1-19	" " .002 10% "	4-33	" EZ 40	10-18	Scale clips, large
1-22	" " .00005	5-1	Aerial coil PA1	10-19	Scale clips, small
1-23	2 gang variable Condenser with fitted feet	5-3	Oscillator coil PO1	11-1	Cord Tension Spring
1-26	Trimmer 3-50 pf.	5-4	Aerial coil PA2	15-6	10" P.M. Loudspeaker
1-28	Twin trimmer 120/120 pf.	5-5	Oscillator coil PO2	16-1	Rubber grommet for $\frac{3}{8}$ " hole
1-29	Twin trimmer 250/750 pf.	5-6	Aerial coil PA3	17-1	Switch wafer oscillator
2-5	Resistor carbon 330 ohm $\frac{1}{2}$ watt	5-7	Aerial coil PA4	17-2	Switch wafer aerial
2-8	" " 820 ohm 2 "	5-8	Oscillator coil PO4	17-4	Switch Rod
2-10	" " 2,200 ohm 1 "	5-9	Aerial coil PA5	19-1	Mains adjuster plug
2-11	" " 2,200 ohm $\frac{1}{2}$ "	5-10	Oscillator coil PO5	19-7	Mains plug 5 amp. 2 pin
2-14	" " 22,000 ohm $\frac{1}{2}$ "	5-11	Coil A.F.	20-6	Mains lead
2-16	" " 33,000 ohm 1 "	6-1	Oscillator coil PO3	22-11	Grommet screw
2-17	" " 33,000 ohm $\frac{1}{2}$ "	6-2	I.F. " " 552	23-8	Control knob
2-18	" " 33,000 ohm $\frac{1}{2}$ "	6-4	Mains Transformer	23-9	" " Engraved GLMS
2-20	" " 100,000 ohm $\frac{1}{2}$ "	7-1	Drum $\frac{4}{8}$ " diam.	23-10	" " Engraved GMSS
2-25	" " 470,000 ohm $\frac{1}{2}$ "	7-9	Flywheel	26-41	Record changer
2-27	" " 1 meg ohm $\frac{1}{2}$ "	7-10	Flywheel drive shaft	27-13	Scale pointer
2-29	" " 2.2 meg ohm $\frac{1}{2}$ "				
2-32	" " 180 ohm $\frac{1}{2}$ "				